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AUTHOR Roy, Joyce; And Others
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ABSTRACT

This study investigated the use of the developmental level of kindergarten children's art work as a predictor of readiness for first grade. The sample consisted of 55 children (33 girls and 22 boys) in three kindergarten classes. All were over 5 years of age and had not attended kindergarten before. The kindergarten screening measure used a categorization of student drawings into one of three levels of art development: (1) scribble stage; (2) preschematic stage; and (3) schematic stage. The Metropolitan Readiness Test (MRT) was used as a standard base for comparison. Scores were rated as poor, average, and high. During a 2-week period, two drawings were obtained from each child and rated by two independent raters. Findings indicated that kindergarten teachers could use the child's level of art ability as an instrument to predict which children would obtain low, average, or high scores on the MRT. If it is assumed that the MRT is an adequate predictor of subsequent school achievement, then the level of the child's art development could also serve as such a predictor. Advantages of using the level of art development as a predictor of school readiness are listed. (RH)

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Predicting School Readiness Through Children's Drawings

Joyce Roy

Jacksonville State University

Jacksonville, Alabama 36265

(205) 435-4401

Mary Williams

Jacksonville State University

Rita Boydston

Jacksonville, Alabama City Schools

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Abstract

The use of children's art development as a predictor of academic potential has focused primarily on aspects of the Harris' Draw-A-Man measure. A more general art form using the three developmental stages: (a) scribble; (b) preschematic; and (c) schematic stages may more appropriately identify the child who is ready for first grade tasks.

Two drawings from each of 55 kindergarten children (33 girls and 22 boys) were categorized as to art development stage. All children were 5 years or older when they entered kindergarten and none had been in kindergarten previously. The Metropolitan Readiness Test (MRT) was administered to these same children.

Statistical analysis of the correlation data showed significance at the .05 level between the two measures of readiness. The results suggest that the art development level can be a predictor of first grade readiness.

Predicting School Readiness Through Children's Drawings

An on-going problem for teachers of young children has been the determination of children who could profit from first grade instruction and those who are not ready for such instruction. This study investigated the use of the level of kindergarten children's art work as a predictor of readiness for first grade achievement.

Salvia and Ysseldyke (1978) viewed readiness in terms of intellectual and discriminatory processes that are believed necessary for the acquisition of knowledge and skills. If the child has developed or matured in these processes, then he/she is ready to learn and to acquire skills. Intellectual readiness is frequently assessed by such measures as the Metropolitan Readiness Test, the Vane Kindergarten Test, the Wechsler Intelligence Scales for Children-Revised, or the Peabody Picture Vocabulary Test. Schmidt and Perino (1985) suggested a brief battery of screening measures as predictors of subsequent school performance to include receptive language and draw-a-man measures.

A criterion-cognitive developmental approach for assessment of readiness (Wendt, 1978) focused on the modalities that the child needs to have developed in order to learn higher level symbolic tasks. These processes are usually ordered in a

developmental-sequential manner so that the level of development for a particular child can be determined. Hillerich (1966) concluded, from a review of several studies, that a knowledge of letter names prior to the teaching of reading may be a predictor of reading success because such knowledge reveals a combination of experience and ability in that the child has been exposed to the printed form and can retain that experience. Sibley (cited in Lowenfeld & Brittain, 1987) stated that if objects in a child's drawings are unrelated to each other, then the child may not have the ability to relate letters to each other to form words for reading. Simner (1985) indicated from research involving 118 kindergarten subjects, that a modified scoring of the Draw-A-Man test had the same overall potential for identifying at-risk children as well as many more time-consuming instruments. Kellogg (1970) concluded her discussion of the use of children's drawings for educational placement by suggesting that the child's ability is no-less-than that found in the best drawing that he/she makes. She further added that this no-less-than rating can be very useful for estimating intelligence of a kind needed for learning abstract Gestalts of letters and numbers. Russell (cited in Lark-Horowitz, Lewis & Luca, 1973) noted relationships between drawing ability, reading ability, overall school achievement and intelligence;

and Hoffman (cited in Lark-Horowitz, Lewis & Luca, 1973) concluded that children who draw well are better prepared for first grade. Dunleavy, Hansen, Szasz and Baade (1981) reported positive results in using the Human Figure Drawing Test to identify academically at-risk kindergarten children.

Lowenfeld and Brittain (1987) described three predictable developmental stages of artistic development: (a) The scribbling stage is the level during which children randomly place marks on paper while being more involved in kinesthetic movement than in trying to draw pictures with meaning. (b) The preschematic stage is a period where children place themselves in the center of the drawing with other objects floating about their body space. Teachers may need the child's interpretation to discern the subject of the drawing. (c) The schematic stage is the level when children produce a more orderly product with a line across the bottom, a base line, for objects to rest upon instead of their floating in space and where a constancy of schemata may be seen in sequential drawings.

The authors theorized that a child would be ready for first grade level learning activities if he/she had arrived at the schematic stage of art development. The schematic stage can be recognized by the child's teacher as the controlling criteria are

base line presence, objects resting on the base line, and constancy of schemata.

Method

Subjects

The sample consisted of 55 children, 33 girls and 22 boys, who were in three kindergarten classes. All children were over 5 years of age and had not attended kindergarten previously. The school district was located in a small town in northeast Alabama. The socioeconomic levels of the children's families ranged from those receiving welfare benefits to upper-middle-class, with most children coming from families in the upper-middle-class.

Predictive Tests

The kindergarten screening measure was a categorization of student drawings into one of three levels of art development: (1) scribble stage; (2) preschematic stage; and (3) schematic stage.

The Metropolitan Readiness Test was used as a standard base for comparison. Scores were rated as poor (0-40), average (41-68), and high (69-102). These values corresponded to stanine values 1-3, 4-6, and 7-9 from the manual of directions for the MRT.

Procedure

Two drawings from each of the 55 children were obtained within a two-week period in late spring. The Metropolitan Readiness Test

was administered during this same time span. The drawings were categorized by two independent raters, who had spent 10 hours in learning to differentiate between drawings in different developmental stages in children's art. Inter-rater reliability was measured at 96 per cent.

Scores on level of artistic ability were categorized as to scribble stage number one, preschematic stage number two, and schematic stage number three. Scores for the Metropolitan Readiness Test were listed as low range number one, average range number two, and high range number three. The two sets of scores, art development stage and MRT range, were plotted on a two-way distribution for computation of the Pearson product moment coefficient of correlation.

Results

The obtained Pearson product moment coefficient of correlation was .283. Using statistical tables for values of r for an N of 55, significance was noted at the .05 level.

Discussion

The findings of the study indicate that teachers of kindergarten children could use the child's level of art ability as an instrument to predict which children would obtain low, average, or high scores on the Metropolitan Readiness Test. If one assumes that the

MRT is an adequate predictor of subsequent school achievement, then the level of the child's art development could also serve as such a predictor.

Limitations of this study include whatever uniqueness may have resided with the children of the sample, with the subjectivity of the raters, and with the assumption that the MRT does indeed measure preparedness for first grade instruction.

Some advantages of using the level of art development as a predictor of school readiness are: (a) samples a children's art work are easily obtained in a non-threatening way in the regular classroom routine; (b) teacher training in determining art development levels is not difficult; (c) assessment may be made at various times during the year for continuous diagnosis of changing abilities; and (d) such a procedure is cost effective as no special materials need be purchased.

Rhoda Kellogg (1970), who studied children's art extensively throughout the world, stated that as the child's brain develops the ability to recognize and remember the shapes that he or she has previously drawn these shapes become fixed in memory and prepare the child's mind for learning to read and write language forms. The scribblings and drawings of young children leave a record of how their minds are developing. She cautions against

premature coaching in drawing, opting instead for free drawing time with blank paper and with a simple drawing instrument, a crayon or pencil.

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